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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,207	01/19/2001	Ming-Yi Lay	0941-0213P-SP	7484
34003	7590	11/17/2004	EXAMINER	
INTELLECTUAL PROPERTY SOLUTIONS, INCORPORATED			WILCZEWSKI, MARY A	
5717 COLFAX AVENUE			ART UNIT	
ALEXANDRIA, VA 22311			PAPER NUMBER	
			2822	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/764,207

Applicant(s)

LAY ET AL.

Examiner

Mary Wilczewski

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4 and 6-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 6-10 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/12/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

**This Office action is in response to the Request For Continued Examination and Information Disclosure Statement filed on July 12, 2004.**

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on July 12, 2004, has been entered.

#### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Drawings***

The drawings filed on January 19, 2001, are acceptable.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4, and 6-9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kim, Korean Patent 00171099, cited by Applicants in the IDS filed July 12, 2004.

Kim discloses a plurality of metal bumps comprising at least a first metal bump 16 having a first sidewall, the first sidewall comprising a first predetermined area; a second bump 17 having a second sidewall, the second sidewall comprising a second predetermined area adjacent to the first predetermined area; wherein the first predetermined area is covered with an oxide insulating layer 18 and the second predetermined area is not covered by the insulating layer, see figures 3d, 3e, and 4. In the method of Kim the second bump 17 is formed atop the first bump 16, with sidewalls of the first bump 16 and the second bump 17 adjacent to one another in the vertical direction. The claims, as presently drafted, do not preclude this arrangement of metal bumps.

Claims 1, 4, and 6-10 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Kim et al., U.S. Patent 6,232,563, of record.

Kim et al. '563 disclose a plurality of metal bumps for connecting a glass substrate and a semiconductor chip comprising at least a first metal bump 16 having a first sidewall, the first sidewall comprising a first predetermined area; a second bump 17 having a second sidewall formed atop the first bump, the second sidewall comprising a second predetermined area adjacent to the first predetermined area; wherein the first predetermined area is covered with an oxide insulating layer 18 and the second predetermined area is not covered by the insulating layer, see figures 3d, 3e, and 4. The metal bumps are formed on a bond pad 12 on semiconductor substrate 11 and connected to the bond pad 21 formed on substrate 22 by using an anisotropic conductive film (19, 20), see figure 4 and column 1, lines 21-38; column 3, lines 41-42 and 63-64 and column 4, lines 4-25. In the method of Kim the second bump 17 is formed atop the first bump 16, with sidewalls of the first bump 16 and the second bump 17 adjacent to one another in the vertical direction. The claims, as presently drafted, do not preclude this arrangement of metal bumps.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The three cited Japanese patents were submitted with Applicants' Information Disclosure Statement filed July 12, 2004, but were not cited thereon.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Wilczewski whose telephone number is (571) 272-1849. The examiner can normally be reached on Monday and Thursday.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Mary Wilczewski  
Primary Examiner  
Tech Center 2800